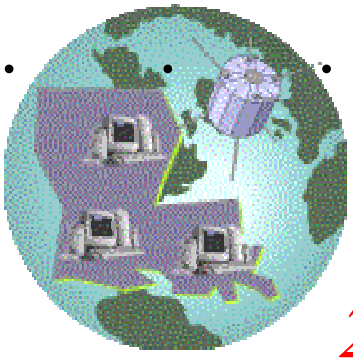
Louisiana Technology Innovations Fund



2005 Annual Report

http://www.doa.Louisiana.gov/ltif April, 2005

Louisiana Technology Innovations Fund

Annual Report to the Legislature

Executive Summary

As of April, 2005 seventy-two projects have been received by the Technology Innovations Fund Council for consideration. To date, twenty-nine were selected for funding. They are as follows:

Log #	Project	Agency	Funding Approved	Amount Paid	Status as of 04/01/05
98-003	Point of Sale Hunting and Fishing	Wildlife and Fisheries	$864,671	$775,684	Complete
98-005	On-line Insurance Reporting	Public Safety	$98,888	$98,888	Complete
98-007	Distance Learning	Military	$607,000	$607,000	Complete
98-007c	Skycell Satellite	Military	$544,000	$544,000	Complete
98-009	Patient Biometrics	LSU Medical Center, NO	$862,500	$3,588	Terminated
98-010	High Performance Computing System	LSU, BR	$989,383	$962,297	Complete
98-016	Campus Walls	LSU, Eunice	$176,422	$176,422	Complete
98-017	Multi-media Internet	Wildlife and Fisheries	$67,410	$54,461	Complete
99-001	Internet-based Video Conferencing	LSU Medical, Shreveport	$765,000	$765,000	Complete
99-004	Louisiana Treasures	LSU, BR and UNO	$198,078	$184,974	Complete

Log #	Project	Agency	Funding Approved	Amount Paid	Status as of 04/01/05
99-005	Lab for Info Technology and Spatial Analysis	UNO	$449,700	$448,178	Complete
99-006	OCDD Telemedicine	Health and Hospitals	$956,982	$895,160	Complete
99-012	LA E-mall	Division of Administration	$925,000	$923,591	Complete
99-014	Web-based Data Warehouse	Education	$1,000,000	$991,000	Complete
99-015	X-Band Satellite Ground Station	LSU, BR	$970,795	$970,795	Complete
99-016	Training Today's Students for Tomorrow's Work Environment	LSU, BR	$275,000	$274,060	Complete
01-001	Mobile Data Terminals	Wildlife and Fisheries	$1,000,000	$1,000,000	Complete
01-002	Saving Lives and Enhancing Efficiency: Managing Medications and Medical Supplies	LSU, Shreveport	$950,000	$783,737	Complete
01-003	A Prototype Enterprise Application Hosting Service	LSU, BR	431,900	$431,718	Complete
02-001	State Trooper Mobile Office	Public Safety	$361,400	$361,400	Complete
02-002	Fire Marshall Information Management System	State Fire Marshall	$1,000,000	$829,679	Complete
02-010	LouisianaMAP	E-Services	$472,175	$297,062	Complete
02-011	Louisiana e-Government Portal	E-Services	$998,590	$896,626	Complete

Log #	Project	Agency	Funding Approved	Amount Paid	Status as of 04/01/05
02-013	Statewide Learning Management System	CPTP	$386,000	$287,545	Complete
02-014	Prototype for Centralized E-Mail	OIT	$949,200	$922,966	In Process
03-003	Exploiting Linux Services in Louisiana	LSU	$999,768	$989,338	In Process
03-006	Development of Business Continuity and Disaster Recovery Plans	DEQ, DNR, DOTD	$281,250	$0	In Process
03-008	Internet-based Wireless Diagnostics and Predictive Modeling System	DOTD	$291,350	$256,350	In Process
03-013	Towards an Integrated Juvenile Justice Information System (IJJIS)	Louisiana Children's Cabinet	up to $335,000	$12,223	In Process

Budget Status

Fund Balance as of April 1, 2004			$0
Increases in Revenue/Income			
	Interest Earnings Act 14 of 2004 Regular Session	$39,958 $0	
Expenditures /Obligations			
	Expenditures	$(2,405,440)	
	Obligations	$2,365,482	
Fund Balance as of March 29, 2005			**$0**

Accomplishments

- The Council membership during this time period was:
  - Jerry Luke LeBlanc, Commissioner, Division of Administration
  - Dominic A. Cali, IT Director, Department of Transportation
  - Jerry Guillot, Chief of Staff, Senate Office
  - Bob Harper, Undersecretary, Department of Natural Resources
  - Butch Speer, Clerk of the House, House of Representatives
- During 2004:
  - No new projects were approved, due to lack of funding.
  - Five projects changed from a status of "In Process" to "Complete. " To date the total number of funded projects completed within or under budget is 22.
  - Standard language in the Memorandum of Understanding was revised to update language regarding the funds transfer process and to allow preliminary review of small changes to a MOU (for example, project end date) in order to determine the necessity to convene a meeting of the Council.
- The LTIF Web site, which is accessible on the Internet at http://www.doa.louisiana.gov/ltif/index.htm under *Info Louisiana* is updated regularly to reflect current progress status and progress reports for each project.

Project Summaries and Highlights

The LTIF was established to support innovative and exemplary projects that significantly contribute to the state's technology infrastructure and/or provide creative and concrete solutions for improving citizens' services.

A summary description and highlights for those projects that had activity during 2004 follows. For projects that were completed between 2000 and 2003, post-implementation updates are provided.

Division of Administration

LA E-Mall

Log #: 99-012

Status: Completed in 2002

The Office of Electronic Services contracted with IBM as the Internet E-Commerce Service Provider to provide turnkey services to allow state government to operate an electronic mall with varied storefronts operated and managed by individual Agencies. The e-Mall is accessible over the Internet through agency Web pages, the Louisiana Services Directory, and the *Info Louisiana* home page. The e-Mall makes the following services available to state agencies:

- Host Services and agency stores, including necessary E-Commerce hardware, software, and data communications.
- Tools to allow agencies to remotely configure and manage their individual stores.
- Consulting services support for Agencies in their implementations of storefronts to use custom forms and to interact with agency databases.
- Tools and support to facilitate Internet-based credit card processing and other electronic formats (i.e., e-checks) for interacting with the "State Bank" designated by the State's Treasurer's Office in accordance with state legislation and regulations.

Five agencies participated in the Initial Phase of this project that was focused on getting the e-Mall and agency storefronts operational. The initial agencies included Department of Transportation And Development, Louisiana Department of Insurance, Department of Economic Development, Louisiana Real Estate Commission, and Division of Administration's Office of State Register. Once underway, the Office of Motor Vehicles joined the project, adding four of their key online services. In addition, OMV added interactive voice response (IVR) as a channel for accessing services via the E-Mall.

Post Implementation Status:

- Use of the E-Mall has increased steadily since initial implementation in 2002. In 2003, the number of transactions handled for the same applications increased by 40% per month over 2002 with a total of more than 150,000 transaction for the year in 2003. In 2004, the monthly transaction volumes are 30% greater than for 2003.

- Since inception, the E-Mall has handled more than 250,000 transactions valued at $11.25 million.

- In order to provide a more cost effective service, the E-Mall support services and legacy applications will be migrated from outsourced hosting to in-house hosting by July 1, 2004. This hosting change will provide a significantly more attractive transaction cost model. As a result, OES is currently working with six agencies to implement delivery of their services online using in-house hosted E-Mall support functions. All six agencies' online applications are scheduled to be operational by the end of 2004.

- Current projections estimate the E-Mall will support over 200,000 transactions in 2004, growing to more than 400,000 by 2006.

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Department of Education

Web-Based Data Warehouse System

Log #: 99-014

Status: Completed in 2003

This initiative implemented a Web-accessible data warehouse to improve student achievement and teacher quality by providing educational administrators, principals, and teachers access to the data they need for effective planning and decision making.

The system provides information from student, staff, financial, and standardized test score data to be accessible 24 hours a day, seven days a week through a desktop with a web browser to all authorized users. For example, data is provided on:

1) Student information for demographics, grades, courses, discipline records, mobility rates, standardized test results, special ed, etc.;
2) Staff for demographics, staff counts by school, courses and students taught;
3) Financial information for budget by facility, actual to planned expenditures, expenditures by program, function, and object codes.

Post Implementation Status:

- Fourteen different systems comprised of student, financial, testing, staff, and accountability data were loaded into the warehouse. The goal is to have five years' (or all years) worth of data for each system loaded. Currently all the systems except for two have been loaded to these specifications.

- A portal at http://www.leadr.info/was deployed for the display of publicly available reports. Over 40 reports are currently available with a projected number exceeding 300. The system has received over 5,000 hits since it went 'live' in September 2003. The lack of activity has been intentional as the LDE has been dissatisfied with the front end provided to produce and display these reports. It is difficult to use, nearly impossible to train those unfamiliar with data processing, and its display capabilities are limited. The LDE is in the process of ameliorating this condition with the acquisition of a more productive and user-friendly front-end. Currently there are over 40 userids issued, of which only about 10% are actively in use. It is expected that the acquisition of this new report developer will substantially improve the usage.

- Data is organized in a logical "business-like" format and easily accessible with a query tool, as opposed to residing in various databases and flat files and accessible only with a process language such as COBOL or SAS. Data request turnaround using the warehouse has been cut by 75%. It is expected to improve as more data is loaded into the warehouse and the skill set of the users improves. More data will become available to the public as customized and parameterized reports are published. Various interested groups such as legislative staff and department personnel will have data immediately available during meetings and conferences. To this end the warehouse has fulfilled its mandates. Many new requirements, particularly the No Child Left Behind Act, require data publication and propagation. The warehouse is the repository of record for this and many accountability reports are being developed using the data stored. With the acquisition of the new front-end, it is expected to replace many of the existing static reports. Furthermore, other federal initiatives (*e.g.*, PBDMI) are being met using the warehouse as the sole source of information.

- The subsequent acquisition of a new online analytical processing (OLAP) tool to create reports that are easier to run and more intuitive in operation shall improve the user acceptance of the warehouse and response time of reports being run. Additionally, the "slicing and dicing" capabilities of the tool shall enhance the utility of the warehouse.

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LSU Baton Rouge

An X-Band Satellite Ground Station for the State of Louisiana

Log #: 99-015

Status: Completed in 2003

The new X-band environmental satellite telemetry system gives Louisiana the capability of receiving and processing advanced direct broadcast, high resolution earth environmental information. This real-time access and analysis lends itself to a major decision support role for emergency management, public safety, public health, economic applications, resource management and research/education. The SAR (Synthetic Aperture) provides advanced real-time, all-weather day/night satellite-derived environmental data for our state. The new X-band system can provide much more detailed measurements and maps of the earth, oceans and atmosphere on a time-series basis with higher spatial, spectral and radiometric resolutions. The new, higher resolution satellite data will provide time-series "birds eye" views of suspended sediments and phytoplankton blooms downstream of the largest Mississippi River diversions (Davis Pond and Caernarvon). These data could prove essential in the development of innovative management strategies for the diversions, maximizing benefits and minimizing negative impacts. The collected data will be linked via the Internet and managed as a non-profit data resource for Louisiana governmental entities and industry.

Louisiana is one of six states capable of receiving and processing advanced data streams to be used for continuous on-going surveillance, research, and environmental management. Besides the environmental management benefits, this investment gives Louisiana regional and national leadership in the use and applications development of space-borne environmental science technology. Furthermore, Louisiana's leadership with the X-Band Station is expected to have a positive impact on our economic development efforts as space-borne environmental sciences and applications of this technology both locally, nationally, and world-wide continue to grow.

Post Implementation Status:

Earth Scan Laboratory Website Commendation
Atmospheric, ocean, and land products derived from X-band satellite data are produced in near real-time and accessed at the home page http://www.esl.lsu.edu. The Internet Scout Project, funded by the National Science Foundation and others, chose the LSU Earth Scan Laboratory's web page for special recognition in the "Research" section of its March 19, 2004 issue of the "NSDL Scout Report for the Physical Sciences". Their report states that the web site offers a large quantity of detailed imagery from GOES, MODIS, and other remote sensing sensors as well as a series of hurricane animations. They also commended the site for listing research publications and

on-line abstracts authored by faculty and staff of the Earth Scan Laboratory. The Scout Report is published by the University of Wisconsin Dept. of Computer Sciences and provides "high quality information about on-line resources." More information can be found at http://scout.wisc.edu/.

Training and Public Outreach

Undergraduate and graduate students at LSU receive hands-on training in the Earth Scan Laboratory on uses and applications of satellite data from the X-Band antenna system including Terra-1 and Aqua-1 MODIS, Oceansat-1 Ocean Color Monitor, and Radarsat-1 Synthetic Aperture Radar (SAR) data. In 2003 and 2004, the Earth Scan Lab staff participated in LSU Ocean Commotion and in demonstrations to the LSU Laboratory School. Numerous demonstrations were also given to visiting scientists and potential new faculty members and deans within the School of the Coast and Environment. Our faculty, staff, and products have been featured on several Baton Rouge TV stations as well as the recent NOVA program on Hurricanes. The LSU Earth Scan Laboratory plays an active role in LSU Hurricane Center activities. In 2004, the Earth Scan Laboratory received a Board of Regent Enhancement Grant to enhance training capabilities for students and faculty.

Graduate Student Awards

Evaristo Liwa, graduate student of Lawrence Rouse, Jr., is using MODIS data for wetland classification for his PhD research. He received the Knauss Fellowship and spent 2004 in Washington D.C. at the National Science Foundation, International program office.

Current LSU research projects that use the Earth Scan Laboratory X-Band facility capabilities :

The Center for Coastal Zone Assessment and Remote Sensing, NASA Group 3 HBCU University Research Centers, (LSU Earth Scan Laboratory is university partner to Southern University-N. Walker P.I.), April 2003-April 2008, LSU budget $960,000, total award, $ 6,000,000.

New remote sensing methodologies for the surveillance of ocean features and improved understanding of circulation processes in the Gulf of Mexico, Minerals Management Service Coastal Marine Institute, (Walker, P.I.), September 2002-August 2005, $346,383.

Assessment and remediation of public health impacts due to hurricanes and major flooding events, LA Board of Regents (Walker, Co-P.I.), April 2002-March 2007, $107,810.

Rawinsonding of the atmospheric structure over the Baton Rouge area in the summer 2003, Louisiana Dept. of Environmental Quality, (S.A. Hsu, P.I.), $49,719.

Rawinsonding of the atmospheric structure over the Baton Rouge area in the summer 2004, Louisiana Dept. of Environmental Quality, (S.A. Hsu, P.I.), $49,741.

Simultaneous measurements of atmospheric visibility, particulate matter, and mixing heights at the Breton area IMPROVE site, Louisiana, Minerals Management Service (S.A. Hsu, P.I.), $299,979, September 2003- September 2006.

Determining overwater visibility and mixing height using satellite and in-situ measurements over the Gulf of Mexico, Minerals Management Service (S.A. Hsu, P.I.), October 2000-June 2004, $294,102.

Advancing the training capabilities and satellite data access within the LSU Earth Scan Laboratory, LEQSF Traditional Enhancement: Earth/Environmental Sciences, (Walker, P.I.), July 1, 2004-June 30, 2005, $70,000.

Deep Water Currents at 92W (Walker, P.I.), Minerals Management Service, 7/99-10/06, $553,286.

Hypoxia Studies in the Northern Gulf of Mexico (Walker, co-P.I., with Nancy Rabalais, Eugene Turner and Greg Stone), NOAA Center for Sponsored Coastal Ocean Research, May 2003-April 2006, $ 508,469.

Papers published or accepted for publication using X-band data

O.K. Huh and N. Walker, Remote sensing science and technology: the role of the Earth Scan Laboratory, *Gulf Coast Association of Geological Societies Transactions*, Vol. 53, October 23-24, 2003, Baton Rouge, LA, 2003.

H.H. Roberts, J.M. Coleman, S.J. Bentley and N. Walker, An embryonic major delta lobe: a new generation of delta studies on the Atchafalaya-Wax Lake System, *Gulf Coast Association of Geological Societies Transactions*, Vol. 53, October 23-24, 2003, Baton Rouge, LA, 2003.

Walker, Nan, Oscar Huh, Alaric Haag, Adele Babin, Jaye Cable, Gregg Snedden, DeWitt Braud, David Wilensky and Kota Prasad, A role for remote sensing in managing Mississippi River diversions, *Backscatter*, Association for Marine Remote Sensing, vol. 14, no. 1, 25-28, 2003

Walker, Nan D**.,** William J. Wiseman, Lawrence J. Rouse, Jr., and Adele Babin, Seasonal and wind-forced changes in surface circulation, suspended sediments, and temperature fronts of the Mississippi River plume, Louisiana, Journal of Coastal Research, in press**.**

Book chapters published or accepted for publication using X-band data

Roberts, H.H., N.D.Walker, and S. Sheremet, Effects of cold fronts on bayhead delta development: Atchafalaya Bay, Louisiana, in *Morphodynamics and Sedimentary Evolution of Estuaries*, D. FitzGerald and J. Knight, Eds., Kluwer Academic Publishers, Dordrecht, The Netherlands, in press.

Roberts, H.H., S. Bentley, J. M. Coleman, S.A. Hsu, O.K. Huh, K. Rotondo, M. Inoue, L.J. Rouse, Jr., A. Sheremet, G.W. Stone, N. D. Walker, S. Welsh, W.J. Wiseman, Jr., A new appraisal of Louisiana's Sedimentary System from the Atchafalaya River to the Chenier Plain Coast, in *The Coastal Zone*, D. Davis and M. Richardson, Eds. 2004 Geoscience Publications, Dept. of Geography and Anthropology, Louisiana State University, Baton Rouge, LA., 2004.

Conference abstracts and talks using X-Band data (partial list)

Walker, N.D., R.R. Leben, S.P. Anderson, P. Coholan, Circulation and shelf-slope exchange processes associated with Loop Current cyclonic frontal eddies, EOS Transactions, OS31F-04 (INVITED), AGU Ocean Sciences Meeting, Portland, Oregon, 26-30 January 2004 (Talk and Abstract).

Roberts, H.H., R.T. Beaubouef, N.D. Walker, G.W. Stone, S. Bentley, A. Sheremet and I. Van Heerden, (paper) Sand-rich bay head deltas in Atchafalaya Bay (Louisiana): Winnowing by cold front forcing, Coastal Sediments '03, 5th International Symposium on Coastal Engineering and Science of Coastal Sediment Processes, Clearwater Beach, Florida, May 18-23, 2003 (Talk).

Huh, O.K, N. Walker, and N. Walker, 2003, Louisiana Office of Emergency Preparedness hosed International Workshop on Environmental Programs for Uzbekistan, May 20, 2003 (Talk).

Walker, N.D., Satellite remote sensing of coastal flooding from Hurrican Lili, Center for Disease Control, LSU Workshop, 26 October 2004.

Walker, Nan D. (invited paper), Biogeochemical modeling, groundtruthing and the Davis Pond Diversion, LS-LAMP and CCZARS Louisiana Research Conference, October 29-31, 2004, New Orleans, LA. 2004.

Davies, J.E., C. Moeller, M.Gunshor, W.P. Menzel, N.D. Walker, Estimating coastal turbidity using MODIS 250m band observations, Ocean Optics XVII, Fremantle, Australia, October 25-29, 2004.

Friedman, Karen. S., Xiawfeng Li, William G. Pichel, Pablo Clemente-Colon**,** Nan Walker, Tim Veenstra, Eddy detection using RADARSAT-1 Synthetic Aperture Radar, IGARSS 2004, Science for society exploring and managing a changing planet, Anchorage, Alaska, 20-24 September 2004.

Walker, Nan D. (invited talk/paper), Gulf of Mexico coastal marine applications using GOES-R data, GOES-R User Conference, May 10-13, 2004, Broomfield, Colorado, 2004.

Reports published using X-band data
B. Blanchard and S.A. Hsu, Meteorology and air quality observe in Baton Rouge, Louisiana during the 2003 ozone season, Louisiana Dept of Environmental Quality Air Analysis Division, LADEQ CFMS Interagency Agreement NO. 594353, February 2004.

Hsu, S. A. and B. W. Blanchard. 2005. Visibility and atmospheric dispersion capability over the northern Gulf of Mexico: estimations and observations of boundary layer parameters: final report. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study MMS 2005-008. 184 pp.

New collaborations using X-band data
The LSU Earth Scan Laboratory faculty and staff continue to collaborate closely with the Louisiana Office of Homeland Security and Emergency Preparedness providing data and interpretations to state officials and the LSU chancellor in times of environmental emergencies including hurricanes, tropical storms, fires, floods. The Earth Scan Lab staff provided satellite image updates every 5-10 minutes for 72 hours at the LOHSEP during Hurricane Ivan in September 2004.

The LSU Earth Scan Laboratory faculty have established collaborative research with NOAA NESDIS (Dr. William Pichel) in the acquisition and use of Synthetic Aperture Radar (SAR) data in the Gulf of Mexico region. Applications are being developed to map coastal flooding, to detect and track oil spills, ship wakes, river plumes, and high velocity currents.

The LSU Earth Scan Laboratory has collaborated with Dr. Jack Malone, LSU Veterinary Medicine in attempts to apply MODIS data to the prediction of West Nile Virus in Louisiana.

Drs. Nan Walker and Eurico D'Sa have initiated new collaboration with the NOAA Coral Reef Early Warning System program, focused on predicting and monitoring coral reef health locally and globally.

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LSU Baton Rouge

Training Today's Student for Tomorrow's Internet Work Environment

Log #: 99-016

Status: Completed in 2002

This project, using the working title of "Robots for Internet Experiences (ROBIE)", was initiated May 15, 2000 and successfully completed on June 30, 2002.

The project successfully showed that technology in the classroom available over the internet can be a highly cost effective mechanism for educating and inspiring students about science and technology. It also became clear during the project that technology in the classroom cannot be an end in of itself. Rather, that technology must be accompanied by development of lessons and materials that guide the use of the technology, assuring that these materials are aligned with existing curriculum and content standards, and teacher training in science / technology content as well as the use of the technology lessons and guide materials. The pilot workshop and classroom evaluations showed ROBIE strengths and areas where improvement would be useful. ROBIE will continue to be refined, using available resources.

Post Implementation Status:

Much of the effort on this project during 2004 has been focused on installing the telescopes scheduled for the Louisiana School for Math, Science and the Arts (LSMSA) in Natchitoches, LA and at LIGO in Livingston, LA. At LSMSA negotiations between the state, the city of Natchitoches, Northwestern State University and LSMSA on use of the land proposed for the observatory lasted throughout the year until late fall 2004 when an agreement was finally reached. Under this agreement LSMSA will be able to construct the observatory on the proposed site and classes will be allowed access. As of this date we are currently awaiting installation of electrical power to the site so that construction can begin. We expect the facility to be ready for LSMSA student and internet use roughly two months following construction start.

Negotiations with LIGO on placing the 16" Ritchey-Chrétien Optical Guidance Systems (OGS) telescope at their site also completed during 2004 with the conclusion that LIGO would not be able to support installation of the telescope anytime within the foreseeable future. Consequently, the 16" OGS was removed back to LSU and a search was made for alternate sites. Several options were considered and an offer provided by the BREC park district in East Baton Rouge parish was chosen. In particular, BREC offered to construct a roll-off roof building next to the existing Highland Road Park Observatory (HRPO). This building will be designed for handicap access including a special eyepiece so disabled persons in wheelchairs would be able to look through the telescope. Further, locating the 16" OGS at the HRPO site will simplify maintenance and ease the integration of both telescopes into the remote control system. BREC has already committed building funds to this project and architectural plans are currently being drawn up. We expect to be able to install the 16" OGS in its new housing during 2005.

During 2004 we also received funding from the Space Telescope Science Institute IDEAS program to develop a series of content knowledge astronomy courses to offer at the HRPO. The courses build upon the ROBIE activities and equipment to offer teachers, advanced high school students as well as the general public the ability to improve their knowledge of astronomy. To date, one course in Basic Astronomy has been implemented and is currently being offered, a second course in telescope usage has been implemented and will be offered during spring 2005 and a course in Advanced Astronomy is currently being developed.

Another result from the ROBIE program is the Mobile Astronomy Resource System (MARS). MARS is a joint program of the LSU Cain Center, LSU Dept. of Physics & Astronomy, BREC and the HRPO and consists of a "high-cube" truck equipped with computer controlled telescopes, a portable planetarium, audio-video equipment, and laptop workstations to bring astronomy experiences to rural, underdeveloped and other remote sites. The vehicle is currently being purchased, the telescope equipment is currently available through the ROBIE project and we expect to begin our first MARS remote program during 2005.

Publications, Presentations

1. "Space Science Public Outreach at Louisiana State University", T.G. Guzik, E. Babin, W. Cooney, J. Giammanco, D. Hartman, R. McNeil, M. Slovak and J.G. Stacy, Advances in Space Research 34, 2121-2126, (2004)

2. "Empowering Teachers to Address Space Science Content Standards in the Classroom", T.G. Guzik, R. McNeil and E. Babin, NASA Office of Space Science Education and Public Outreach Conference 2002, ASP Conference Series, eds. Narasimhan, Beck-Winchatz, Hawkins & Runyon, 319, 120 – 124, (2004)

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Department of Wildlife and Fisheries

Mobile Data Terminals

Log #: 01-001

Status: Completed in 2004

This project implements a base foundation network to support Mobile Data Terminals (MDT's) for approximately 60 officers/vehicles in the Law Enforcement Division of the Department of Wildlife and Fisheries. MDT's provide agents with a direct link to frequently used sources: the National Crime Information Center, nationwide drivers license files, other natural resource protection agencies, state and local agencies, Fisheries Information Network, the Department of Wildlife and Fisheries Intranet, hunting, fishing, fishery landings, etc.

The immediate availability of relevant, crucial information improves and increases the current delivery of services to Louisiana citizens and extends services to typically underserved citizens, those that live and work in more rural areas on hard to reach waterways. In addition to online compliance and enforcement functions, the laptop computer serves as an offline computer for report writing, time and attendance reports and crucial statistical information, all of which is captured and compiled in a database used to gauge performance relating to WLF's goals and objectives.

Highlights

- As opposed to a turnkey solution, as was originally proposed, the project was split and a RFP was issued for the automatic vehicle location (AVL) component. All hardware and software meets expectations and no serious problems were encountered during the testing and implementation stages. Subsequently, no serious problems have been encountered since completion.
- We have realized multiple unexpected benefits from the project including increased technical skills by our field staff, a buy-in to technological advances by administration and field staff and a desire to grow the system to capacity.

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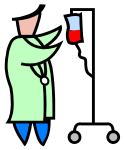

LSU Health Science Center, Shreveport –

Managing Medications and Medical Supplies

Log #: 01-002

Status: Complete Spring 2005

The goals of this project were to 1) save patient lives and improve patient care through reduction of medication errors; 2) create sustainable and measurable cost savings by ensuring that all medications and supplies are appropriately tracked and charged to the patient and by reducing the cost of managing the procurement and distribution of medications and supplies; 3) enhance billing efficiency by interfacing to systems that are currently stand-alone; 4) reduce or re-allocate workforce by reducing manual data entry and manual tracking of medications and supplies.

The use of this combination of MAK and CPOE to improve patient safety and enhance efficiency has been attempted by fewer than 10% of the hospitals in the country.

Highlights

- Hospital Administration and nursing staff have become enthusiastic proponents of the Medication Administration Check (MAK) system and the electronic "safety net" that it provides.
- The Computerized Physician Order Entry (CPOE) system is now being used by all staff and residents in Psychiatry.
- Statistics regarding the number of adverse drug events that have been prevented by MAK are summarized in the final report.
- Working with LSUHSC-New Orleans and the Health Care Services Division to explore possibilities of expanding the use of MAK and CPOE functionality through the VISTA system developed for the VA hospitals.

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Louisiana State University

A Prototype Enterprise Application Hosting Service

Log #: 01-003

Status: Completed in 2003

The Enterprise Application Hosting Service provides researchers, educators, and students across the State of Louisiana, and across the U.S., with access to Enterprise Applications from the Global market leader, SAP, including: enterprise resources planning (ERP), customer relationship management (CRM), supply chain management (SCM), strategic enterprise management (SEM), supplier relationship management (SRM), and Portals.

As the hosting entity that provides these valuable services, LSU plays a leadership role in academic hosting, enterprise systems curriculum, and enterprise systems research. As an official SAP UCC hosting site, LSU is host to a number of SAP faculty workshops for SAP University Alliance members, as well as host to an annual ASUG (SAP User's Group) meeting attended by numerous business professionals in Louisiana and Texas.

Through this service, researchers, educators and students at LSU and their hosted clients, are able to 1) access the above mentioned SAP enterprise systems for academic purposes, 2) leverage these systems to support innovative curriculum development, and 3) leverage these systems to support research initiatives.

These goals of this project have been realized, and will continue to be realized, through the SAP UCC Program established between SAP AG and LSU's E.J. Ourso College of Business Administration.

Highlights:

- The Hosting Services operation is self-supporting and requires a relatively low level of resources and capital. It provides access to a full suite of ERP and e-Business applications for educational purposes serving the following 15 Universities:
    - Louisiana State University
    - Southern University
    - Louisiana Tech
    - University of New Orleans
    - University of Florida
    - Georgia Tech
    - University of Houston
    - Villanova University
    - Kansas University
    - Oklahoma State University
    - Miami University of Ohia
    - Youngstown State University
    - Southern Illinois University – Edwardsville
    - Pennsylvania College of Technology
    - Washington College
- The hosting center operation hosts a series of annual SAP Faculty workshops for University faculty members of the SAP UA program. These faculty come from the above schools, as well as 80 other Universities in North America. More information on this program is available from the following URL: (http://www.sap.com/usa/company/alliances/index.aspx).
- The Hosting Service is one of ten SAP Global University Competency Centers, five of which are located in the U.S. (University of Wisconsin-Milwaukee, Drexel University, California State University at Chico, University of Missouri, and LSU), two in Germany (University of Passau, University of Magdeburg), one in Australia (Queensland Institute of Technology), one in the Netherlands (University of Amsterdam), and one in Japan (Aoyama Gakuin University).

A partial list of recently published articles:

Noguera, J. H. and Watson, E. F. (2004) "Effectiveness of using an enterprise system to teach process-centered concepts in business education." Journal of Enterprise Information Management, Vol. 17, No. 1, pp. 56-74.

Yao, Y., DeSouza, K.C., and Watson, E. (2004) "The Role of Application Service Providers in the Development of Small and Medium-Sized Enterprises" in Electronic Commerce in Small to Medium-Sized Enterprises: Frameworks, Issues and Implications, Nabeel A. Y. Al-Qirim (Editor), Idea Group Publishing, pp. 337-355.

Reisel, W.D. and Watson, E.F. (2003) "Global Management Education: The Case of ERP Enabled Business School Programs" in Educating Managers with Tomorrow's Technologies, A Volume in: Research in Management Education and Development, pp. 191-209.

- SAP AG continues to sponsor the UCC by providing Enterprise Application software at no charge ($5,000,000 market value), providing subsidy to support UCC operations ($250,000 per year), and providing subsidy to support hardware requirements.

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Public Safety

State Trooper Mobile Office

Log #: 02-001

Status: Completed in 2003

This project was intended to provide 650 Louisiana State Police Road Troopers with enhancements to there Mobile Data office. The projected purposes of the enhancements were to allow road troopers to gather, create, and store Reports and other documents more efficiently ultimately making their work environment more effective.

Highlights

- Magnetic Card Stripe Readers - This has allowed the Troopers to directly upload driver information into the intended application. This has greatly increased the accuracy of driver information being gathered. With the software that was developed for these readers, several formats of driver's licenses can be read by the magnetic card strip readers. These also have assisted Troopers in the recognition of illegally manufactured driver's Licenses.
- Printers in the vehicle - With these printers installed in the Vehicles, Troopers have been able to print and file copies of reports, NICIC information, and other documents created for their daily activities. Troopers no longer have to travel to the troops to print out, file, or retrieve forms and reports needed thus allowing the Trooper more time to accomplish the most important task, public safety.
- Microsoft Office - MS Office programs have allowed Troopers to view and create reports and vital to their job routines and requirements.
- All purposes and performance indicators that were projected by the addition of the enhancements to the Troopers' Mobile Data Offices have been met and have exceeded Trooper response. These enhancements have heightened Trooper security, efficiency and productivity by giving him important tools needed in his work place environment.

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State Fire Marshall

Fire Marshall Information Management System

Log #: 02-002

Status: In process; 95% Complete

The project is being implemented to provide the ability for the Louisiana Architectural, Engineering, and Construction community ("AEC") as well as the general public to submit and review plans through a web based portal; to provide the State Fire Marshall the ability to perform construction inspections while in possession of the most current information on that specific project; the capability to provide the citizens and businesses of the State of Louisiana electronic communication with the State Fire Marshal's Office via the web; the means of producing quicker and more cost effective correspondence with the AEC and Louisiana citizens; and the implementation of a program that can potentially be interconnected with other state agencies and local municipalities around the country.

Highlights

- All computer hardware and software have been received, installed, and accepted.
- The project is slightly behind schedule, attributable to computer coding for cross department infrastructure and extra time spent on database development. Enforcement code changes and legislatively mandated changes that have come about since the beginning of the project have been incorporated. Project completion is scheduled for mid-2005.
- Agency personnel have been very pleased with the completed portions of the program they have tested.
- When completed, the SMARTEAM program will be considered for application by other states who have indicated interest in the program.

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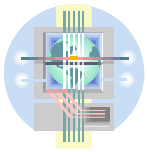

Office of E-Services

LouisianaMAP

Log #: 02-010

Status: Complete

The Louisiana Geographic Information Systems Council in partnership with the Office of Electronic Services addressed the State's geographic process issues so that all sectors of Louisiana government, businesses and citizens can effectively and efficiently utilize geographic information and services to enhance their business processes. The strategy was to address the geographic process from an *enterprise* perspective through three complementary, integrated initiatives:

- a comprehensive state plan for production, acquisition, and management of key geographic framework information
- a web-based geospatial portal
- training for the use of the data and geographic services provided through the portal

Highlights

- LouisianaMAP average utilization is nearly 1,000 session per workday (27,000 sessions per month) since it was originally launched in December 2003. The average number of images/maps displayed has increased accordingly to over 250,000 images/maps downloaded for viewing per month.
- Key enhancements to the original operational baseline based on user feedback are being continually added.
- Began conducting LouisianaMAP Academy in April 2004
- A planning session in June 2004 set the direction for the follow-on to the I-Team activities based on the I-Team Plan recommendations.
- A new Executive Order was drafted in August 2004 to align activities GIS in Louisiana under a consolidated approach entitled LouisianaMAP.
- LouisianaMAP Executive Order executed in November 2004

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Office of E-Services

e-Government Portal

Log #: 02-011

Status: In Process, 98% Complete

This project will establish an e-Government web portal so that anyone can access State government in various contexts such as:

- a life event (moving to Louisiana, starting a new job, marriage, death…)
- an intention-based scenario ("how do I renew my driver's license?")
- a member of a community of interest (citizen, state employee, business, non-resident)
- or based on personal preferences (customized view of pre-selected web pages of interest as part of a user profile)

Key existing web assets in state government will be integrated so that information and services responses will be presented in a seamless fashion and without the need to know or understand the State government organizational structure.

Highlights

- The Content Management system was established as a product standard in June, 2002 and subsequently implemented in September 2003. This element of the portal project is fully available at this time and is supporting the Portal development.

- The Citizen Relationship Management software, Ask Louise, was launched operationally in July 2003. This element of the portal project is fully operational.

- The Enterprise Search capability has been established as a line of service based on the Verity Infoseek search engine. Enterprise search has been tuned to support the increased demand of the Portal and is fully available at this time. Several agencies are currently utilizing the Search line of service.

- A design firm worked with OES personnel to establish the portal graphic design and the initial Portal styleguide. These have been available since March 2003 and were utilized in the competitive selection of the Portal developer under the CSSA. This level of design greatly facilitated fastracking the portal implementation.

- This Portal developer selection was handled under the Web area of the CSSA. Five of the ten CSSA Web Tier 1 qualifiers competed for the Portal initiative. This activity was initiated in March 2003 immediately after the Tier 1 CSSA contracts for the Web area were in place. IEM was selected in May 2003 and began work in June 2003.

- An Invitation to Bid (ITB) process was used through the Office of State Purchasing to set the state standard for Application Platform Suite (APS). Because this is the software baseline required for the Portal, the final portal design and implementation was dependent on selection of this standard. Using the ITB, the IBM Websphere product family was selected in May 2003 as the state standard for APS and the appropriate components of that product line for the Portal were acquired when the contract became effective in June 2003.

- A Memorandum of Understanding was executed with Louisiana Technology Park to provide the initial hardware hosting required for the portal. This hardware is in place and supported the development activities of the Web Developer to be selected through the CSSA process.

- The IBM Websphere software necessary to host the development, test and production environments for the Portal was been acquired. The Portal developer, IEM, has installed the Websphere software components on the servers at Technology Park and on the OES development desktops at Division of Administration.

- OES coordinated with Louisiana Department of Economic Development and the Governor's Office to incorporate the Choose Louisiana initiative as a key theme for the Louisian.Gov Portal.

- The detail design and initial implementation of the State Portal was completed in September, 2003 . In October and November 2003 the portal was integrated with other state web resources and subjected to extensive testing. The Portal was declared ready for launch in mid-November and was brought online at the end of November 2003. The official roll-out of the portal occurred, in concert with a press release, on December 2, 2003.

- The Louisiana.gov Portal was updated to reflect the administration changes effective January 12, 2004.

- Work on the infrastructure for participating agency web sites began in October 2003. This infrastructure has been completed and partners have finalized their content for these web sites.

- eCommerce integration, which began in September 2003, was completed in July 2004. All eCommerce users are fully operational as of September 2004.

- The Payment Gateway development and portal hosting for agencies using the eLicense regulatory licensing system has also been completed. The business processing for three agencies are operational under the eLicensing system. OES in conjunction with the eLicense vendor, CAVU, has successfully integrated credit card processing via the Payment Gateway.

OES has implemented an alternative Payment Gateway interface based on secure XML messaging to simplify the process of providing the service to new users. Processing for Credit Card transactions is currently operational and supporting applications in five agencies with implementation in an additional 7 agencies underway. Development of ACH (electronic check) functionality with Bank One is currently in process. The scheduled completion date for this task is April 30, 2005.

- IBM has upgraded the current Portal software baseline to the latest version of IBM Websphere Portal. The new hosting environment at OCS has been successfully installed and configured. The migration of the Louisiana.gov Portal from Technology Park to OCS complete and the new site is currently undergoing assurance testing. This migration will provide for increased portal performance and improved maintainability. The revised completion date for this task is March 31, 2005.

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Comprehensive Public Training Program (CPTP)

Statewide Learning Management System

Log #: 02-013

Status: Complete

This project is to acquire and implement a centralized statewide Learning Management System (LMS) that will consolidate existing but separate State employee training databases into one repository for all state employee training data. This will create the foundation for an e-learning environment that will allow CPTP to plan, deliver, track, manage and report all types of employee training, offer a full range of content via custom web-based courses and commercially available courses, and create web-based tests and assessments.

Highlights

- Phase 1 - Installed LMS, converted Registrar database to SQL database, imported course management data from NETg database, imported employee data from Civil Service database, developed standards to facilitate shared use of LMS by other state departments

- Phase II: Enhanced LMS Access for Training Administrators to include all functions except create rights, piloted statewide use of LMS with 2 departments (DEQ and DOTD), rolled out LMS statewide to all Training Administrators. The capacity allocation feature will be implemented, allowing CPTP to open the LMS to all CPTP Training Coordinators.

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Office of Information Technology

Prototype for Centralized E-Mail

Log #: 02-014

Status: Complete in January, 2005

Historically, individual state agencies have been responsible for providing their own e-mail service, which entails significant hardware, software, personnel and training expenses (or outsourcing), and results in service quality that varies drastically between departments, and provides no integration of e-mail or free/busy scheduling between state departments. This project seeds the implementation of a statewide e-mail line of service based on a cost recovery model. It entails one centrally managed standard e-mail offering to replace the three primary e-mail software packages currently deployed statewide, and provides one common e-mail directory and calendaring tool that can be shared by all State employees while at work or via the Web. Agency subscribers are charged a set price-per-seat that is lower than the costs associated with managing their individual, distributed sites statewide, and quality of service will improve.

Other key benefits anticipated are: 1) to implement an IT line of service that can provide immediate benefit to core business function that encompasses a large base of the state's workforce; 2) to develop a statewide deployment plan that can be used for this and other enterprise services to be offered in the future; 3) to build the technical and support framework through which other desktop lines of service can be offered.

Highlights:

- The statewide email project now supports 6,000 state employees in the following agencies for messaging functions:
    - Division of Administration
    - Department of Economic Development
    - Governor's Office
    - University of Louisiana Systems
    - Department of Education
    - Civil Service
    - Department of Natural Resources
    - Department of Environmental Quality
    - Public Service Commission.
    - Department of Revenue and Taxation

- The statewide email system is very tightly integrated with the Office of Telecommunications Management's Blackberry Enterprise Service.
- ISIS Payroll / Personnel workflow uses statewide email to deliver the online leave approval system.

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Louisiana State University

Exploiting Linux Services in Louisiana

Log #: 03-003

Status: In Process, 85% Complete

LSU proposes to develop a robust, scalable environment to accelerate and facilitate the evaluation and deployment of Linux services and applications within public-supported entities in Louisiana. Linux combined with virtualization technology offers a possible opportunity to combat the growing cost of supporting burgeoning, complex information technology infrastructures and the increasing dependence on a proprietary software platform. The intent is to maximize the opportunity to accelerate innovation with Linux, to limit dependence on proprietary systems and to focus on total cost of ownership issues.

Highlights:
LSU set up a virtual z/Linux image for McNeese University and loaded the SAKAI open courseware server package on it. It appears to run as advertised. LSU set up another image as a web site host for the statewide LONI project. New images for a project in the Sociology department and a web server for the Mass Communications department use the campus Active Directory services for authentication, minimizing the need for yet another password for the users of these systems. Added a Wiki plug-in to the Zope application hosting package on the English department's web server image.

In the infrastructure area, LSU implemented the rsync utility to keep mirror images of key z/Linux systems on inexpensive Intel machines for emergency failover situations and consolidated some campus webcam functions onto the z/Linux LSU web site. z/VM V5 arrived and is targeted for installation and testing in early 2005. SuSE z/Linux V9 was integrated into the virtual z/Linux cloning utilities and added to the automated local mirror of the SuSE updates from the vendor. LSU has settled into a monthly schedule for updating all z/Linux images with the latest fixes.

LSU is planning to move to a virtual switching function available in z/VM to eliminate the need for a dedicated z/Linux router image in each LPAR. This will return the routing function for each guest LAN in z/VM to the campus networking infrastructure. They also exchanged information with DSS concerning their plans to use a spare IFL in their mainframe to set up a z/VM-z/Linux environment.

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Department of Natural Resources,
Department of Transportation and Development,
Department of Environmental Quality

Development of Business Continuity and Disaster Recovery Plans

Log #: 03-006

Status: In Process, 40% complete

Continuity of critical government services in the event of a disaster or crisis is of paramount importance to the State of Louisiana. Three key Louisiana State agencies are participating in this project that will demonstrate the viability and feasibility of using sophisticated mitigation software

to develop disaster recovery plans that meet the needs of the individual agency, yet integrate at the Statewide level. Disaster recovery plans define the resources determined critical for recover, how fast, by whom, and where a recovery will take place to re-establish critical business infrastructure. The business continuity plan includes procedures to return to normal business conditions. Experience gained in this prototype will be portable and transferable to other agencies that also need to develop business continuity plans and disaster recovery plans.

Highlights:

- Survey documents for the three department has been completed.
- DNR and DEQ have identified staff who will participate in the training and subsequent survey.
- DOTD is finalizing the staff selection for the training and survey.
- The training and survey was delayed as the agencies have taken multiple projects and are having difficulties assigning the appropriate staff to this project. Respective IT Directors and Undersecretaries are giving priority to this project to avoid further delays.
- Training and survey is planned to be completed by the end of March 2005.

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Department of Transportation and Development

Internet-based Wireless Diagnostics and Predictive Modeling System

Log #: 03-008

Status: In Process, 65% Complete

A primary DOTD function is to ensure the operational health of its mission critical vehicle and equipment assets, which account for nearly 25% of the State's total vehicle fleet. Inadequate maintenance is the primary cause of premature wear and unscheduled downtime, both of which result in significant costs. The proposed system utilizes patent-pending technology to wirelessly flow in-vehicle diagnostics to a centralized fleet management system, designed to monitor onboard parameters and diagnostics. If necessary, the fleet system responds to incoming vehicle data by appropriately notifying operators, maintenance and management personnel, and relevant vendors via the Internet and field-based hardware devices. All data is stored in a central data warehouse for interrogation and predictive modeling.

Highlights

- DOTD was able to hire an electrical contractor to install the appropriate electrical service and to run the telecommunications network lines via underground conduit to the appropriate buildings at the Central Repair Shop campus where the installation of this technology is located. This effort was completed in early December, was paid by DOTD, and did not use TIF funding.

- Three (3) wireless antennas were installed at this campus to ensure coverage, making it much easier to remove the antenna and relocate it if necessary.

- Several vehicle data modules have been installed and the system is operational on a limited basis. Exposure to the solution is currently focused with the shop foreman and the

superintendent. It is expected that in early 2005, the solution will be expanded to all shop foremen.

- DOTD fully expects to complete the installation in accordance with the baseline. They will then monitor the operation of the technology for a period of not less than six (6) months and not more than twelve (12) months. A final report outlining all activities, issues, and results will be filed with the LTIF committee after this evaluation period is complete.

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Office of the Governor / Children's Cabinet

Towards an Integrated Juvenile Justice Information System

Log #: 03-013

Status: In Process, 25% Complete

The Children's Cabinet, in partnership with the Louisiana Commission on Law Enforcement (LCLE), the Office of Youth Development, Department of Public Safety and Corrections, the Supreme Court, and various district courts, will implement an integrated, web-based Juvenile Offender Information Network (JOIN) system based on national standards to enable data sharing among statewide and local juvenile justice agencies involved with juvenile delinquency, traffic, formal FINS, probation, detention, and corrections.

The integrated Juvenile Offender Information Network (JOIN) system will be installed and tailored to meet the needs of at least two pilot sites within 21 months of the date of grant award. Thereafter, it will be a goal to install and tailor the system to meet the needs of at least three additional pilot sites per year or a minimum total of fifteen sites in five years.

Each pilot site will begin reporting data as required by the Children's Cabinet, the Louisiana Commission on Law Enforcement, the Legislature, and perhaps other entities within one year after the installation of each system.

The JOIN system will be merged and integrated with the stand-alone systems being developed by the Supreme Court and potentially other users into the Integrated Juvenile Justice Information System (IJJIS) within two years of the completion of this grant and the first year of installation of the offender system within the pilot sites.

<u>Highlights:</u>

- The project start and end date have been extended due to project delays. However, the project is expected to move quickly and on schedule.

- The two major contracts necessary for the initiation and completion of the project have been executed. A functioning Planning Team and User Group have been created and are actively involved in the project. A massive effort to collect data elements, report formats, previous data base structures, and relevant literature is virtually complete.

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Project Progress Reports

The LTIF guidelines stipulate that each award recipient provide progress reports indicating the status of the project, accomplishments by milestone, and expenditure of funds. The latest progress reports for each of the funded projects can be found at www.doa.louisiana.gov/ltif/ltifprop.htm